

REMARKS/ARGUMENTS

Claims 1-10 remain pending in the instant application. Favorable reconsideration is kindly requested.

Rejection Under 35 U.S.C. §103

Claims 1-4 are rejected under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 6,039,083 to Loper (“Loper”) in view U.S. Patent No. 6,032,699 to Cochran, *et al.* (“Cochran”). Claim 5 is rejected under 35 U.S.C. §103(a) as obvious over Loper in view of Cochran as applied to claim 1-4, and further in view of U.S. Patent No. 6,643,388 to Taylor, *et al.* (“Taylor”). Applicant respectfully traverses these rejections, for at least the following reasons.

Applicant refers to the discussion with Examiner in the telephone interview of December 16, 2010, and the interview summary filed concurrently herewith. More specifically, independent claim 1 recites a method of draining and venting the permeate gases from a subsea flexible tubular pipe comprising, *inter alia*, “injecting an entrainment gas under pressure into [an] annular region and along the flow paths to force the permeate gases to flow along the flow paths toward [a] vent”. The Office Action cites Loper as disclosing a subsea pipe including vent space between internal and external pressure sheaths. It is acknowledged, however, that Loper does not teach or suggest inserting an inert gas to run the permeated gasses through to the vent.

The Office Action proposes to combine Loper with Cochran to provide insertion of an inert gas in an annular region between an inner pressure sheath and an outer sheath of a pipe, and that the combination would have been obvious to one of ordinary skill in the Art to arrive at the method of claim 1 by the combination. Applicant respectfully disagrees.

Applicant respectfully submits that Cochran does not teach or suggest “injecting an entrainment gas under pressure into [an] annular region and along the flow paths to force the permeate gases to flow along the flow paths toward [a] vent” as recited in claim 1. The Cochran system is provided for detecting leaks from an underground fuel-transfer pipe. To do this, a double-walled pipe is provided, and a constant-pressure gas source 70 is connected with the space between the inner and outer pipe walls. A leak is detected by one or more pressure gauges 88a, 88b. Therefore, any escape of the gas from the space between the pipes is detected as the pressure of that gas falls. Therefore, there is no reason according to Cochran for the gas to flow, or to entrain and permeate gases as recited according to claim 1.

For example, Cochran describes the gas-filled annular space as “the containment chamber” (Col. 2, line 40). See also, “pressurizable interstitial space” (Col. 3, line 2). This indicates that the space contains the gas, but is not specifically provided for a flow of the gas, so as to entrain any permeate material as recited in present claim 1. Further, Cochran describes that the boots 34 provided at the ends of the pipe sections are fluid-tight (Col. 2, lines 42-46; Col. 7, lines 18-31). The only exception to that being ports 36, for connection between adjacent sections, and/or with pressure sensors 88a, 88b, etc. Therefore, the fluid-tight nature of the boots further reinforces that there is no planned venting of the interstitial gas from its sealed chamber. Most notably, Cochran does not include any identifiable vent, or otherwise indicate an exit of the gas from the system, except by a leak that is to be detected. Such a vent or exit would be necessary to create a flow and/or entrainment as recited in claim 1.

The Examiner indicated that the reference contemplates “circulation” of the gas within the containment chamber (Col. 9, lines 24-26). This does not conflict with the understanding that there is no flow of the gas or entrainment under ordinary operating circumstances, nor any entrainment of permeate. For example, where the containment chamber includes multiple pipe sections connected by a hose 82 between adjacent boots 34b, 34c (Fig. 5), and only one pressure sensor provided (e.g., Fig. 3), gas must be permitted to flow to the sections where a breach occurs to reduce the pressure at the sensor and therefore trigger an alarm. This does not alter the fact that the space between the inner and outer pipes is considered by Cochran as a “containment chamber”, and that the gas provided does not entrain any materials permeating from the inner sheath to the interstitial space.

Therefore, Applicant respectfully submits that even presuming that there were some apparent reason to combine Loper and Cochran as proposed in the Office Action, independent claim 1 is nonetheless patentably distinguished over the proposed combination. It remains well settled that to establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In re Gulack*, 703 F.2d 1381, 1385 n.9, 217 U.S.P.Q. 401 (Fed. Cir. 1983). Applicant respectfully submits that independent claim 1 is patentably distinguished over Loper and Cochran singly or in combination, and that the rejection has been obviated.

Claims 2-4 each depend from independent claim 1, and incorporate its features by reference. Claim 5 is likewise dependent from claim 1, and similarly incorporates its features by

reference. The proposed addition of Taylor to Loper and Cochran does not offer any teaching or suggestion to ameliorate the deficiencies of the proposed combination with respect to the underlying claim 1. Therefore, while claims 2-5 are each separately patentable, in the interest of brevity, they are offered as patentable for at least the same reasons as their underlying independent base claim. Applicant respectfully submits that the rejections have been obviated, and kindly requests favorable reconsideration and withdrawal.

Claims 6-8 are rejected under 35 U.S.C. §103(a) as obvious over Loper in view of Cochran and U.S. Patent No. 4,315,408 to Karl (“Karl”). Claims 9 and 10 are rejected under 35 U.S.C. §103(a) as obvious over Loper and Cochran in view of Karl as applied to claims 6-8, and further in view of Taylor. Applicant respectfully traverses these rejections, for at least the following reasons.

The Office Action proposes that one of ordinary skill in the art would find it obvious to modify the structure of Cochran by substituting tubes to create an annulus to transmit gases. Applicant respectfully disagrees. The proposed modification in view of Karl would destroy the underlying function of Cochran, which is to use a sealed pressure vessel of the outer annular chamber of a double-walled pipe to detect leaks from the inner pipe. Applicant kindly refers to the above discussion of Cochran as indicating its use of the “pressurizable interstitial space” as a “containment chamber”.

In this light, such a combination is non-obvious, according to controlling precedent. “If when combined, the references would produce a seemingly inoperative device, then they teach away from their combination.” *Tec Air Inc., v. Denso Manufacturing Michigan Inc.*, 192 F.3d 1353 (Fed. Cir. 1999).

Moreover, even if combined, the tubes disclosed according to Karl would not function as an entrainment to force permeate gases through the annular region for example in the interstitial regions between such tubes as illustrated in Karl, Figure 6. Therefore, substituting the tubes of Karl as proposed in the Office Action does not meet all features of at least independent claim 6. The Office Action does not allege that deficiency is cured by the proposed combination with Karl.

In light of this discussion, Applicant respectfully submits that claim 6 is patentably distinguished over Loper, Cochran and/or Karl taken singly or in any combination. Dependent claims 7 and 8 each depend from independent claim 6, and incorporate its features by reference.

Claims 9 and 10 likewise each depend from independent claim 6, and incorporate its features by reference. Claims 7-10 are each separately patentable, but in the interest of brevity are all respectfully submitted as patentable over the proposed combination of Loper, Cochran, Karl and/or Taylor for at least the same reasons noted above, namely that Loper and Cochran in view of Karl, does not teach or suggest all features of the independent claim 6.

Applicant respectfully submits that the rejection has been obviated, and kindly requests favorable reconsideration and withdrawal.

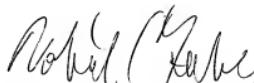
Conclusion

In light of the foregoing, Applicant respectfully submits that all claims are patentable, and kindly requests an early and favorable Notice of Allowability.

THIS CORRESPONDENCE IS BEING
SUBMITTED ELECTRONICALLY
THROUGH THE PATENT AND
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RCF/DJT:lf

Respectfully submitted,



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